



STATE OF MAINE
DEPARTMENT OF ENVIRONMENTAL PROTECTION

JOHN ELIAS BALDACCI
GOVERNOR

DAVID P. LITTELL
COMMISSIONER

University of Maine System
Cumberland County
Portland, Maine
A-464-71-L-M (SM)

Departmental
Findings of Fact and Order
Air Emission License
Amendment #1

After review of the air emissions license amendment applications, staff investigation reports and other documents in the applicant's file in the Bureau of Air Quality, pursuant to 38 M.R.S.A., §344 and §590, the Department finds the following facts:

I. REGISTRATION

A. Introduction

1. University of Maine System (UMS) was issued Air Emission License A-464-71-J-R/A on January 14, 2005, permitting the operation of emission sources associated with their University of Southern Maine campus located in Portland, Maine.
2. UMS has requested a minor revision to their license in order to update the license regarding buildings and emission equipment that have been removed and to allow for the installation of one back-up generator, three natural gas-fired boilers, and a #6 fuel oil storage tank and the relocation of one back-up generator.

B. Emission Equipment

The following equipment is addressed in this air emission license:

Boilers

<u>Equipment</u>	<u>Maximum Capacity (MMBtu/hr)</u>	<u>Maximum Firing Rate (gal/hr or scfh)</u>	<u>Fuel Type, % sulfur</u>	<u>Stack #</u>
¹ Boiler #4	4.2	4112 scfh	Natural gas	2
² Boiler #9	4.8	34.3 gal/hr	#2 fuel oil, 0.5%	7
Boiler #15	1.0	971 scfh	Natural gas	19
³ Boiler #16	0.5	485 scfh	Natural gas	21
³ Boiler #17	0.25	243 scfh	Natural gas	22

Note 1: The building housing Boiler #4 (located at the 645 Congress Street) has been sold and is no longer owned by UMS.

AUGUSTA

17 STATE HOUSE STATION
AUGUSTA, MAINE 04333-0017
(207) 287-7688 FAX: (207) 287-7826
RAY BLDG., HOSPITAL ST.

BANGOR
106 HOGAN ROAD
BANGOR, MAINE 04401
(207) 941-4570 FAX: (207) 941-4584

PORTLAND
312 CANCO ROAD
PORTLAND, MAINE 04103
(207) 822-6300 FAX: (207) 822-6303

PRESQUE ISLE
1235 CENTRAL DRIVE, SKYWAY PARK
PRESQUE ISLE, MAINE 04769-2094
(207) 764-0477 FAX: (207) 760-3143

Note 2: Boiler #9 (previously located at the Steego Building) and its associated stack (stack #7) have been removed.

Note 3: Boilers #16 (located at Wishcamper Center on Bedford Street) and #17 (located at Osher Map Library at 310 Forest Avenue) are each rated at less than 1 MMBtu/hr heat input, so are considered insignificant activities under *Major and Minor Source Air Emission License Regulations*, 06-096 CMR 115.

Electrical Generation Equipment

<u>Equipment</u>	<u>Horse Power (HP)</u>	<u>Firing Rate (gal/hr or scfh)</u>	<u>Fuel Type, % sulfur</u>	<u>Stack #</u>
⁴ Back-up Generator #3	86	20.8	Diesel, 0.05%	11
Back-up Generator #6	105	790	Natural gas	20

Note 4: Back-up Generator #3 has been relocated to the south side of the library.

Storage Equipment

<u>Equipment</u>	<u>Storage Capacity (gallons)</u>	<u>Material Stored</u>
⁵ Tank #1	25,000	#6 Fuel Oil
⁶ Tank #4	250	#2 Fuel Oil

Note 5: Tank #1 (located adjacent to the Central Heating Plant) has been replaced with a new tank.

Note 6: Tank #4 (previously located at the Steego Building) has been removed.

C. Application Classification

This amendment will increase emissions by less than 4 ton/year for each single pollutant and less than 8 ton/year for all pollutants combined. Therefore, this modification is determined to be a minor revision and has been processed as such.

II. BEST PRACTICAL TREATMENT (BPT)

A. Introduction

In order to receive a license the applicant must control emissions from each unit to a level considered by the Department to represent Best Practical Treatment (BPT), as defined in *Definitions Regulation*, 06-096 CMR 100 (last amended December 24, 2005). Separate control requirement categories exist for new and existing equipment as well as for those sources located in designated non-attainment areas.

BPT for new sources and modifications requires a demonstration that emissions are receiving Best Available Control Technology (BACT), as defined in *Definitions Regulation*, 06-096 CMR 100 (last amended December 24, 2005). BACT is a top-down approach to selecting air emission controls considering economic, environmental and energy impacts.

B. Boiler #15

Boiler #15 is a small natural gas fired boiler used for space heating and domestic hot water heating purposes in the Science Building located on Falmouth Street.

NSPS requirements

The boiler has a heat input capacity of less than 10 MMBtu/hr, and is therefore not subject to the New Source Performance Standards (NSPS) 40 CFR Part 60, Subpart Dc, *Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units*, for units greater than 10 MMBtu/hr manufactured after June 9, 1989.

A summary of the BACT analysis for Boiler #15 (1 MMBtu/hr) is the following:

1. The total fuel use limits for the facility shall not change from air emission license A-464-71-J-R/A.
2. 06-096 CMR 106 regulates fuel sulfur content, however firing natural gas produces much lower SO₂ emissions and is determined to meet BACT. The SO₂ emission limit is based upon AP-42 data dated 7/98.
3. The NO_x emission limit is based upon AP-42 data dated 7/98.
4. The CO and VOC emission limits are based upon AP-42 data dated 7/98.
5. Visible emissions from the boiler shall not exceed 20% opacity on a six (6) minute block average, except for no more than one (1) six (6) minute block average in a continuous 3-hour period.

C. Back-up Generator #6

Back-up generators are only to be operated for maintenance purposes and for situations arising from sudden and reasonably unforeseeable events beyond the control of the source. Back-up generators are not to be used for prime power when reliable offsite power is available.

A summary of the BACT analysis for Back-up Generator #6 (105 hp) is the following:

1. Back-up Generator #6 shall fire only natural gas.
2. Back-up Generator #6 shall be limited to 500 hr/yr of operation on a 12 month rolling total basis. Compliance shall be demonstrated by a written log of all generator operating hours.
3. 06-096 CMR 106 regulates fuel sulfur content, however firing natural gas produces much lower SO₂ emissions and is determined to meet BACT. The SO₂ emission limit is based upon AP-42 data dated 7/00.
4. 06-096 CMR 103 regulates PM emission limits, however, AP-42 data indicates that PM emissions from natural gas fired generators are much lower. Therefore, the BACT limit is based upon AP-42 data dated 7/00. The PM₁₀ limit is derived from the PM limit.
5. The NO_x, CO, and VOC emission limits are based upon AP-42 data dated 7/00.
6. Visible emissions from the stack served by Back-up Generator #6 shall not exceed 10% opacity on a six (6) minute block average, except for no more than one (1) six (6) minute block average in a continuous 3-hour period.

D. Annual Emissions

There will be no change in the total licensed annual emissions for the facility.

Total Licensed Annual Emissions for the Facility

Tons/year

(used to calculate the annual license fee)

Pollutant	Tons/Year
PM	7.21
PM ₁₀	7.21
SO ₂	57.7
NO _x	26.6
CO	3.82
VOC	0.61

III.AMBIENT AIR QUALITY ANALYSIS

According to 06-096 CMR 115, the level of air quality analyses required for a minor source shall be determined on a case-by case basis. Based on the information available in the file, and the similarity to existing sources, Maine Ambient Air Quality Standards (MAAQS) will not be violated by this source.

ORDER

Based on the above Findings and subject to conditions listed below, the Department concludes that the emissions from this source:

- will receive Best Practical Treatment,
- will not violate applicable emission standards,
- will not violate applicable ambient air quality standards in conjunction with emissions from other sources.

The Department hereby grants Air Emission License A-464-71-L-M (SM) subject to the conditions found in Air Emission License A-464-71-J-R/A and in the following conditions.

Severability. The invalidity or unenforceability of any provision, or part thereof, of this License shall not affect the remainder of the provision or any other provisions. This License shall be construed and enforced in all respects as if such invalid or unenforceable provision or part thereof had been omitted.

STANDARD CONDITIONS

- (1) Employees and authorized representatives of the Department shall be allowed access to the licensee's premises during business hours, or any time during which any emissions units are in operation, and at such other times as the Department deems necessary for the purpose of performing tests, collecting samples, conducting inspections, or examining and copying records relating to emissions (38 M.R.S.A. §347-C).
- (2) The licensee shall acquire a new or amended air emission license prior to commencing construction of a modification, unless specifically provided for in Chapter 115. [06-096 CMR 115]
- (3) Approval to construct shall become invalid if the source has not commenced construction within eighteen (18) months after receipt of such approval or if construction is discontinued for a period of eighteen (18) months or more. The Department may extend this time period upon a satisfactory showing that an

extension is justified, but may condition such extension upon a review of either the control technology analysis or the ambient air quality standards analysis, or both. [06-096 CMR 115]

- (4) The licensee shall establish and maintain a continuing program of best management practices for suppression of fugitive particulate matter during any period of construction, reconstruction, or operation which may result in fugitive dust, and shall submit a description of the program to the Department upon request. [06-096 CMR 115]
- (5) The licensee shall pay the annual air emission license fee to the Department, calculated pursuant to Title 38 M.R.S.A. §353. [06-096 CMR 115]
- (6) The license does not convey any property rights of any sort, or any exclusive privilege. [06-096 CMR 115]
- (7) The licensee shall maintain and operate all emission units and air pollution systems required by the air emission license in a manner consistent with good air pollution control practice for minimizing emissions. [06-096 CMR 115]
- (8) The licensee shall maintain sufficient records to accurately document compliance with emission standards and license conditions and shall maintain such records for a minimum of six (6) years. The records shall be submitted to the Department upon written request. [06-096 CMR 115]
- (9) The licensee shall comply with all terms and conditions of the air emission license. The filing of an appeal by the licensee, the notification of planned changes or anticipated noncompliance by the licensee, or the filing of an application by the licensee for a renewal of a license or amendment shall not stay any condition of the license. [06-096 CMR 115]
- (10) The licensee may not use as a defense in an enforcement action that the disruption, cessation, or reduction of licensed operations would have been necessary in order to maintain compliance with the conditions of the air emission license. [06-096 CMR 115]
- (11) In accordance with the Department's air emission compliance test protocol and 40 CFR Part 60 or other method approved or required by the Department, the licensee shall:
 - A. perform stack testing to demonstrate compliance with the applicable emission standards under circumstances representative of the facility's normal process and operating conditions:
 1. within sixty (60) calendar days of receipt of a notification to test from the Department or EPA, if visible emissions, equipment operating parameters,

staff inspection, air monitoring or other cause indicate to the Department that equipment may be operating out of compliance with emission standards or license conditions; or

2. pursuant to any other requirement of this license to perform stack testing.
- B. install or make provisions to install test ports that meet the criteria of 40 CFR Part 60, Appendix A, and test platforms, if necessary, and other accommodations necessary to allow emission testing; and
- C. submit a written report to the Department within thirty (30) days from date of test completion.
[06-096 CMR 115]

- (12) If the results of a stack test performed under circumstances representative of the facility's normal process and operating conditions indicate emissions in excess of the applicable standards, then:

- A. within thirty (30) days following receipt of such test results, the licensee shall re-test the non-complying emission source under circumstances representative of the facility's normal process and operating conditions and in accordance with the Department's air emission compliance test protocol and 40 CFR Part 60 or other method approved or required by the Department; and
- B. the days of violation shall be presumed to include the date of stack test and each and every day of operation thereafter until compliance is demonstrated under normal and representative process and operating conditions, except to the extent that the facility can prove to the satisfaction of the Department that there were intervening days during which no violation occurred or that the violation was not continuing in nature; and
- C. the licensee may, upon the approval of the Department following the successful demonstration of compliance at alternative load conditions, operate under such alternative load conditions on an interim basis prior to a demonstration of compliance under normal and representative process and operating conditions.

[06-096 CMR 115]

- (13) Notwithstanding any other provisions in the State Implementation Plan approved by the EPA or Section 114(a) of the CAA, any credible evidence may be used for the purpose of establishing whether a person has violated or is in violation of any statute, regulation, or Part 70 license requirement. [06-096 CMR 115]

- (14) The licensee shall maintain records of malfunctions, failures, downtime, and any other similar change in operation of air pollution control systems or the emissions unit itself that would affect emission and that is not consistent with the terms and conditions of the air emission license. The licensee shall notify the Department within two (2) days or the next state working day, whichever is later, of such occasions where such changes result in an increase of emissions. The licensee

shall report all excess emissions in the units of the applicable emission limitation.
[06-096 CMR 115]

- (15) Upon written request from the Department, the licensee shall establish and maintain such records, make such reports, install, use and maintain such monitoring equipment, sample such emissions (in accordance with such methods, at such locations, at such intervals, and in such a manner as the Department shall prescribe), and provide other information as the Department may reasonably require to determine the licensee's compliance status. [06-096 CMR 115]

SPECIFIC CONDITIONS

The following condition shall be in effect upon issuance of this license and shall replace Condition (17) of Air Emission License A-464-71-J-R/A:

(17) Boilers #5, #6, #7, #11, #12, #13, #14, and #15

A. Total fuel use for Boilers #5, #6, #7, #11, #12, #13, #14, and #15 combined shall not exceed 15 million scf/year of natural gas. Compliance shall be demonstrated by fuel use records. Records of annual fuel use shall be kept on a 12-month rolling total basis. [06-096 CMR 115, BPT]

B. Emissions shall not exceed the following [06-096 CMR 115, BPT]:

Emission Unit	PM (lb/hr)	PM₁₀ (lb/hr)	SO₂ (lb/hr)	NO_x (lb/hr)	CO (lb/hr)	VOC (lb/hr)
Boilers #5, #6, #7	0.36	0.36	0.01	0.30	0.25	0.02
Boiler #11	0.02	0.02	0.01	0.15	0.13	0.01
Boilers #12, #13	0.02	0.02	0.01	0.20	0.17	0.01
Boiler #14	0.01	0.01	0.01	0.10	0.09	0.01
Boiler #15	0.01	0.01	0.001	0.10	0.10	0.01

- C. Visible emissions from each of the stacks serving Boilers #5, #6, #7, #11, #12, #13, #14, and #15 shall not exceed 10% opacity on a six (6) minute block average, except for no more than one (1) six (6) minute block average in a continuous 3-hour period. [06-096 CMR 115, BPT]

The following condition shall be in effect upon issuance of this license and shall replace Condition (18) of Air Emission License A-464-71-J-R/A:

(18) **Boilers #8 and #10**

- A. Total fuel use for Boilers #8 and #10 combined shall not exceed 70,000 gallons/year of #2 fuel oil with a maximum sulfur content of 0.5% by weight. Compliance shall be demonstrated by fuel receipts and/or records from the supplier showing the quantity of fuel delivered and the percent sulfur of the fuel. Records of annual fuel use shall be kept on a 12-month rolling total basis. [MEDEP Chapter 115, BPT]
- B. Emissions shall not exceed the following:

Emission Unit	Pollutant	lb/MMBtu	Origin and Authority
Boiler #8	PM	0.12	06-096 CMR 103(2)(B)(1)(a)
Boiler #10	PM	0.12	06-096 CMR 103(2)(B)(1)(a)

- C. Emissions shall not exceed the following [MEDEP Chapter 115, BPT]:

Emission Unit	PM (lb/hr)	PM ₁₀ (lb/hr)	SO ₂ (lb/hr)	NO _x (lb/hr)	CO (lb/hr)	VOC (lb/hr)
Boiler #8	0.24	0.24	1.01	0.60	0.07	0.01
Boiler #10	0.13	0.13	2.32	0.33	0.04	0.01

- D. Visible emissions from each of the stacks serving Boilers #8 and #10 shall not exceed 20% opacity on a six (6) minute block average, except for no more than one (1) six (6) minute block average in a continuous 3-hour period. [06-096 CMR 101]

The following condition shall be in effect upon issuance of this license and shall replace Condition (19) of Air Emission License A-464-71-J-R/A:

(19) **Back-up Generators #1, #2, #3, #4, #5, and #6**

- A. UMS shall limit each Back-up Generator to 500 hr/yr of operation (based on a 12 month rolling total). An hour meter shall be maintained and operated on

each Back-up Generator. [06-096 CMR 115, BPT]

- B. The Back-up Generators shall only be operated for maintenance purposes and for situations arising from sudden and reasonably unforeseeable events beyond the control of the source. The Back-up Generators shall not be used for prime power when reliable offsite power is available. A log shall be maintained documenting the date, time, and reason for operation. [06-096 CMR 115, BPT]
- C. Back-up Generators #1 and #3 shall fire diesel fuel oil with a sulfur limit not to exceed 0.05% by weight. Back-up Generators #2, #4, and #6 shall fire natural gas. Back-up Generator #5 shall fire propane. Compliance with the diesel fuel sulfur limit shall be based on fuel records from the supplier showing the quantity of fuel delivered and the percent sulfur of the fuel. [06-096 CMR 115, BPT]
- D. Emissions shall not exceed the following:

Emission Unit	Pollutant	lb/MMBtu	Origin and Authority
Generator #4	PM	0.12	06-096 CMR 103(2)(B)(1)(a)
Generator #6	PM	0.10	06-096 CMR 115, BACT

- E. Emissions shall not exceed the following [06-096 CMR 115, BPT]:

Emission Unit	PM (lb/hr)	PM ₁₀ (lb/hr)	SO ₂ (lb/hr)	NO _x (lb/hr)	CO (lb/hr)	VOC (lb/hr)
Generator #1	0.21	0.21	0.04	2.91	0.63	0.23
Generator #2	0.01	0.01	0.01	2.53	0.20	0.08
Generator #3	0.90	0.90	0.15	12.7	2.74	1.10
Generator #4	0.68	0.68	0.01	23.2	1.80	0.67
Generator #5	0.01	0.01	0.01	3.51	3.20	0.03
Generator #6	0.10	0.10	0.001	3.30	0.30	0.10

- F. Visible emissions from each of the stacks serving diesel fired Back-up Generators #1 and #3 shall not exceed 20% opacity on a six (6) minute block average, except for no more than two (2) six (6) minute block averages in a continuous 3-hour period.
[06-096 CMR 101]

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- G. Visible emissions from each of the stacks serving natural gas or propane fired Back-up Generators #2, #4, #5, and #6 shall not exceed 10% opacity on a six (6) minute block average, except for no more than one (1) six (6) minute block average in a continuous 3-hour period.
[06-096 CMR 101]

DONE AND DATED IN AUGUSTA, MAINE THIS 4th DAY OF June, 2009.

DEPARTMENT OF ENVIRONMENTAL PROTECTION

BY: James P. Little
DAVID P. LITTELL, COMMISSIONER

The term of this amendment shall be concurrent with the term of Air Emission License A-464-71-J-R/A.

PLEASE NOTE ATTACHED SHEET FOR GUIDANCE ON APPEAL PROCEDURES

Date of initial receipt of application: October 19, 2007

Date of application acceptance: November 15, 2007

Date filed with the Board of Environmental Protection:

This Order prepared by Eric Kennedy, Bureau of Air Quality.

